

RE: Thorndike Place Test Pit Summary

Mullen, Ross <ross.mullen@hatch.com>

Fri 3/22/2024 12:01 PM

To: David Morgan <dmorgan@town.arlington.ma.us>; Bitsko, Duke <duke.bitsko@hatch.com>
Cc: Chuck Tirone <ctirone@ci.reading.ma.us>; Ryan Clapp <rclapp@town.arlington.ma.us>; Susan Chapnick <s.chapnick@comcast.net>; Mullen, Ross <ross.mullen@hatch.com>

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Hi David,

Yes, what I wrote is correct. Using soil redox to determine groundwater elevations is consistent with the practices outlined in Chapter 3, Volume 1 of Massachusetts Stormwater Handbook and Stormwater Standards.

Please note that Soil Science is its own area of expertise, unique from stormwater engineering. There are unique baccalaureate degree programs, certifications, and accreditation for soil scientists that are distinct from those certifications/accreditations/degrees fields of those engaged in stormwater management. As such, I'm unable to comment on the validity of the testing the applicant used, only to say that the stated analysis methodology, identifying seasonal high groundwater elevations using redoximorphic features, is consistent with the Massachusetts Stormwater Standards.

Ross Mullen, PE*, CFM** (he/his/him)

Senior Water Resources/ Hydrotechnical Engineer| Hydropower & Dams

*Professional Engineer Licensed in AZ, ME, MN, NH, NY, ND, OR, TN, TX, and WA

**Certified Floodplain Manager

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HATCH

Vacation Alert(s):

-March 29 through April 7

From: David Morgan <dmorgan@town.arlington.ma.us>

Sent: Friday, March 22, 2024 9:14 AM

To: Mullen, Ross <ross.mullen@hatch.com>; Bitsko, Duke <duke.bitsko@hatch.com>

Cc: Chuck Tirone <ctirone@ci.reading.ma.us>; Ryan Clapp <rclapp@town.arlington.ma.us>; Susan Chapnick <s.chapnick@comcast.net>

Subject: Re: Thorndike Place Test Pit Summary

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Hi Ross,

The following question was raised at last night's Conservation Commission hearing on Thorndike Place. If you would, please reply all with your response so the commission chairs and administrator also receive your reply. I will then forward our correspondence to the full commission and the applicant.

1. In the third bullet of your 3/15/24 email to David Morgan, you say "While the applicant's groundwater readings meet the Mass Stormwater Manual," Please confirm, Yes or No, whether its your professional opinion that the applicant determined Estimated Seasonal Groundwater in accordance with the MassDEP Stormwater Standards and Handbook.

Cheers,

David

David Morgan | Environmental Planner + Conservation Agent | Department of Planning and Community Development | 781.316.3012

Arlington values equity, diversity, and inclusion. We are committed to building a community where everyone is heard, respected, and protected.

From: Mullen, Ross <ross.mullen@hatch.com>

Sent: Friday, March 15, 2024 10:43 AM

To: David Morgan <dmorgan@town.arlington.ma.us>; Ryan Clapp <rclapp@town.arlington.ma.us>; Bitsko, Duke <duke.bitsko@hatch.com>

Cc: ConComm <ConComm@town.arlington.ma.us>; Mullen, Ross <ross.mullen@hatch.com>

Subject: RE: Thorndike Place Test Pit Summary

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David,

At this time, Hatch's recommendation is for "**Recommended Site Modification**" and "**Collection of Additional Data**" based both on the criteria listed in the Mass Stormwater Manual and our professional judgement.

In summary, there is considerable uncertainty in the soils at the site, and even by the applicant's own admission, they barely meet multiple standards regarding separation from groundwater. Regarding the separation from groundwater, the margin for error on this site is extremely small. The separation from groundwater will affect the proposed project's ability to conform with the standards 2, 3, and 4 :

- o In our experience, infiltration BMP's near wetlands and infiltration in areas of historic fill are very atypical, because many engineers do not feel confident that the types of soils commonly found at these locations will be able to infiltrate stormwater runoff in the long-term. This site is both proximal to a wetland and located on historic fill.
- o The design does not meet the minimum permissible setbacks to structures for infiltration devices may be found in Table RR of the Mass Stormwater Manual.
- o Hatch remains very concerned that there is appreciable groundwater-intrusion based flood risk to the townhomes and we are concerned that insufficient separation to groundwater would result in the project not meeting the required water quality criteria. While the applicant's groundwater

readings meet the Mass Stormwater Manual, there are numerous engineering best practice guides and that state that wet floodproofing should be secondary to good engineering design that keeps water away from building foundations (e.g. FEMA NFIP Technical Bulletin 10 dated March 2023). There is both a risk of hydrostatic pressure induced collapse of the foundations, as well as basement damage from groundwater intrusion to the structures. Based on these principles, the Town of Arlington bylaws include a requirement of 4.0-feet of separation between the low floor of occupied levels and the seasonal high-water table [Section 5.8.6.A(2)], which we understand is not subject to the review of the Conservation Commission.

- Because we understood the stormwater peer review was closed, we have not yet reviewed the groundwater mounding analysis.
- We concur with the recommendations of the Conservation Commissioners that was expressed at the February 15, 2024 meeting, which included the recommendations to collect additional groundwater levels at the site. We believe that the additional data collection would either help to validate or repudiate the established groundwater elevations and provide significantly more certainty.

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From: David Morgan <dmorgan@town.arlington.ma.us>

Sent: Friday, March 15, 2024 9:11 AM

To: Mullen, Ross <ross.mullen@hatch.com>; Ryan Clapp <rclapp@town.arlington.ma.us>; Bitsko, Duke <duke.bitsko@hatch.com>

Cc: ConComm <ConComm@town.arlington.ma.us>

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Thanks, Ross. Having spoken with the commission chairs about the review, I understand your request for a change order. I expect the commissioners will discuss at Thursday's hearing whether they feel they have sufficient information to move forward, or if they want to request a change order.

Does Hatch have a recommendation based on the information reviewed to date? There was language in the contract about Hatch providing recommendations "for approval, conditional approval, recommended site modification, or denial of the proposed development." Which of these categories do your findings fit best?

Cheers,

David

David Morgan | Environmental Planner + Conservation Agent | Department of Planning and Community Development | 781.316.3012

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From: Mullen, Ross <ross.mullen@hatch.com>

Sent: Thursday, March 14, 2024 2:02 PM

To: David Morgan <dmorgan@town.arlington.ma.us>; Ryan Clapp <rclapp@town.arlington.ma.us>; Bitsko, Duke <duke.bitsko@hatch.com>

Cc: ConComm <ConComm@town.arlington.ma.us>; Mullen, Ross <ross.mullen@hatch.com>; Mullen, Ross <ross.mullen@hatch.com>

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Welcome back David.

My apologies, it was my understanding that the Conservation Commission had moved onto the habitat review and were no longer receiving comments from the stormwater peer reviewer.

Additionally, the Hatch team is happy to continue to provide comments and attend Conservation Commission public meetings; however, we will require a change order as our scope only included attendance of one public meeting by two staff (or two meetings by one staff member) and one set of response to comments from the applicant. Unfortunately, we've exhausted our original budget by attending multiple meetings and issuing several rounds of comments.

Let us know how you'd like to proceed.

Ross Mullen, PE*, CFM** (he/his/him)

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From: David Morgan <dmorgan@town.arlington.ma.us>
Sent: Thursday, March 14, 2024 12:22 PM
To: Dominic R. Rinaldi <drinaldi@bscgroup.com>; Ryan Clapp <rclapp@town.arlington.ma.us>; Stephanie Kiefer <SKiefer@smolakvaughan.com>; Bitsko, Duke <duke.bitsko@hatch.com>; Mullen, Ross <ross.mullen@hatch.com>
Cc: ConComm <ConComm@town.arlington.ma.us>
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Hi Duke and Ross,
Are you in receipt of Dom's report and will you be able to provide feedback on the submitted supplemental materials by COB?

While we received BSC's materials by the deadline for the next meeting, we won't have a response, so in order to facilitate discussion, the sooner the better.

Cheers,

David

David Morgan | Environmental Planner + Conservation Agent | Department of Planning and Community Development | 781.316.3012

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From: Dominic R. Rinaldi <drinaldi@bscgroup.com>
Sent: Wednesday, March 13, 2024 12:06 PM
To: Ryan Clapp <rclapp@town.arlington.ma.us>; Stephanie Kiefer <SKiefer@smolakvaughan.com>; Bitsko, Duke <duke.bitsko@hatch.com>; Mullen, Ross <ross.mullen@hatch.com>
Cc: ConComm <ConComm@town.arlington.ma.us>
Subject: Thorndike Place Test Pit Summary

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All,
Please find the attached Test Pit Summary Report for Thorndike Place submitted to clarify information previously provided. Please confirm receipt and let me know if you have any questions. Thank you.

Dominic Rinaldi, PE (he, him)

Engineering Manager, Senior Associate

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